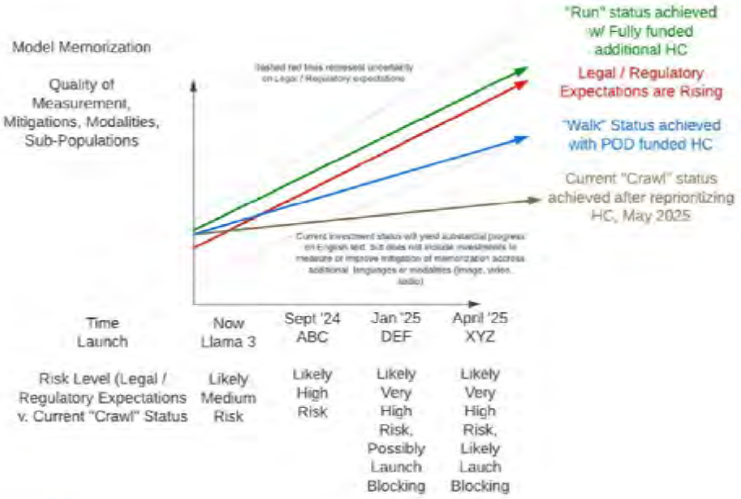
# EXHIBIT 153

## Funding Options vs Maturity

**Summary**

Without additional funding the team will be able to deliver text only measurement, while being blocked to deliver any new media modalities as well as more granular PII assessment and incorporation of measurement and mitigations early into the product life cycle. We expect this to have risk starting from LLAMA 4 OSS, with the risk increasing with every new model release.




Lucid link for editing.

See specific HC funding needs for POD vs Accelerated Maturity, here.

| Funding Options → Solution's Maturity ↓ | **Current state**: LLAMA 3 | **Option 1 :** Funding a pod to streamline investment (getting to Walk and later investing into covering new modalities / capabilities) | **Option 2 Recommended** : Accelerate maturity and State of the Art Measurement and Mitigations |
|---|---|---|---|
| Metric quality | Crawl | Walk<br>+ Specific risk measurement, PII risk | Run<br>+ Video Metrics, Stretch goal: Voice |

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|---|---|---|---|
| | Memorization rate vs baseline only | breakdown, Biometrics etc. | or other new capabilities |
| General memorization Risk measurement | Crawl<br><br>Multilingual and Long context | Walk<br><br>+ Image memorization rate | Run<br><br>+ Video memorization rate, Stretch goal: Voice or other new capabilities |
| Copyright Risk Measurement | Crawl<br><br>Multilingual for Tier 0 languages | Walk<br>+ Multilingual (more languages) + Image / Facial copyright | Run<br>+ Video copyright |
| PII Risk Measurement | Crawl<br><br>Text only with supplemental manual red teaming for images | Walk<br><br>+ Image PII detection, Facial ID and improved accuracy (using tagged data instead of extraction attacks). | Run<br><br>+ Video |
| Early Identification of Risk | Crawl<br><br>Measurement starts only once pre trained checkpoint available | Run<br><br>+ Integration into model's lifecycle for e2e monitoring | |
| Ability to mitigate Risk | Crawl<br><br>Reporting residual risk only once pre trained model is ready and basic pre training data cleanup + RLHF | Walk<br><br>+ Inform mitigation during training and model development | Run<br><br>+ R&D of advanced mitigation techniques such as "unleraning" |

Detailed funding options:

**Current Funding**:

- 2 eng + 0.25 PM on GenAI Trust (for measurement of LLAMA 3) - ***will need to remain focused on LLAMA 3 and 4 by May 3, 2024.***
- 1 eng on Central Applied Science + 0.5 eng on Privacy (for building the longer term solution)

| Operating model → Execution Tradeoffs ↓ | **Option 1 (Recommended)** - v-Team (GenAI, Central Applied Science, Privacy) | **Option 2** - GenAI measures and mitigates. | | **Option 3:** Privacy owns measurement (framework, risk prioritization, narrative). GenAI owns mitigations and incorporation into their training process / evals. |
|---|---|---|---|---|
| **Additional needed HC**<br><br>Incremental to the Current Funding | **POD (Walk Maturity):**<br>• GenAI: +1 PM<br>• Central Applied Science: +2 Eng **(Funding ask from Privacy and GenAI)**<br>• Privacy: +0.5 Eng<br><br>**Accelerate SOTA (Run Maturity):**<br>• GenAI: +1 PM, +3 Eng<br>• Central Applied Science: +4 Eng **(Funding ask from Privacy and GenAI)**<br>• Privacy: +1 Eng | **POD (Walk Maturity):**<br>• GenAI: +1PM, +3 Eng<br>• Central Applied Science: N/A<br>• Privacy: N/A (consulting from 0.5 existing Eng)<br><br>**Accelerate SOTA (Run Maturity):**<br>• GenAI: +1 PM, +8 Eng<br>• Central Applied Science: N/A<br>• Privacy: +0.5 Eng (scale up to 1 FTE eng for consulting) | | **POD (Walk Maturity):**<br>• GenAI: +1 Eng<br>• Central Applied Science: N/A<br>• Privacy: +1PM, + 2 Eng<br><br>**Accelerate SOTA (Run Maturity):**<br>• GenAI: +2 Eng (mitigation research and integration), Part time PM on GenAI (for mitigations)<br>• Central Applied Science: N/A<br>• Privacy: +1 PM, +6 Eng |
| **Existing expertise and tooling** | • This helps optimize for 2 key dependencies, to accelerate the work:<br>  ○ Central Applied Science has significant expertise and production tooling from working on a similar problem with Ads (leveraging opt-out user data in EU under GDPR). Also has a firm grasp on GenAI memorization SOTA [1], and built out execution plans [2], [3] w/ current working team. Central Applied Science already has some prototypes on GenAI (Llama 3; Genie / Masterherd), and has production tooling [4] and experience on mitigations.<br>  ○ There is a strong dependency on collaboration with privacy both on strategic positions and risk as well as on PII data tagging and granular detection. | **Short-Term**<br>• Will need to start a team and ramp up folks on privacy attacks, memorization measurement, etc.<br>• Will need to start a new set of tooling w/ ML infra integrations for Genie / Masterherd, and Llama.<br>• GenAI has existing expertise in measurement and mitigations, however lacks SOTA expertise in the domain of memorization for new modalities and capabilities - where Central Applied Science has previous experience. | **Medium-Term**<br>• After build-up & onboarding a new GenAI team they will have expertise in the research space, and can build extensions to existing tooling, or completely new tooling.<br>• Efficiencies for intra-GenAI collaborations & communication.<br>• Likely some cross-org duplication of tooling for memorization, both measurement and mitigation (as CAS still supporting other orgs in the space). | • Need to ramp up new people, or seed the team with people that have existing expertise on CAS / GenAI.<br>• There will still be a dependency on having GenAI own integration into their training and mitigations (as this is part of GenAI core scope for model development). |
| **Engineering efficiency and execution** | • Will require more coordination across the v-team. However, this can be mitigated and made efficient with one centralized PM and a single cross-org review series (GenAI + Privacy, w/ invites to Central Applied Science).<br>• The PM should own measurement across all 3 teams , collab with existing mitigations teams (in the "Walk" funding) or also drive research to new way for mitigating memorization (in the "Run" full funding). | • It is easier to execute within a single org or with less dependencies. This should potentially allow for higher accountability.<br>• May require more net-Eng funding to replicate forgone expertise and frameworks from Central Applied Science. | | • Risk of missed handovers / eng complexity going from measurement to incorporation into training process, and mitigations.<br>• May require more net-Eng funding to replicate forgone expertise and tooling from Central Applied Science. |